

Three new species of Phycitinae from Central Asia (Pyraloidea: Pyralidae)

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Summary. The imago and male and female genitalia of *Myeloiodes minimella* gen. n. et sp. n. are described and illustrated. The imago and male genitalia of *Ocrisiodes turkmeniensis* sp. n. and *Prorophora* (*Prorophora*) *kazachstaniella* sp. n. are also described and illustrated. A diagnosis is given for *Myeloiodes* gen. n., *Ocrisiodes* Amsel, 1950, and *Prorophora* (*Prorophora*) Ragonot, 1887 and their wing venation are illustrated. The differences between *Myeloiodes* gen. n. and *Myelois* Hübner, 1825 are mentioned.

Zusammenfassung. *Myeloiodes minimella* gen. n. et sp. n. wird beschrieben und abgebildet zusammen mit den männlichen und weiblichen Genitalien. *Ocrisiodes turkmeniensis* sp. n. und *Prorophora* (*Prorophora*) *kazachstaniella* sp. n. werden beschrieben und zusammen mit den männlichen Genitalien abgebildet. Für *Myeloiodes* gen. n., *Ocrisiodes* Amsel, 1950 und *Prorophora* (*Prorophora*) Ragonot, 1887 wird eine Diagnose gegeben und das Flügelgeäder abgebildet. Die Unterschiede zwischen *Myeloiodes* gen. n. und *Myelois* Hübner, 1825 werden genannt.

Key words. Lepidoptera, Pyralidae, Phycitinae, new taxa, Central Asia.

Introduction

The subfamily Phycitinae is currently classified into four tribes, the Cryptoblabini, Phycitini, Cabniini, and Anerastiini (Roesler 1973, part 2: 43). A subtribe of the Phycitini is the Acrobasina, which is split into a quadrifid and a trifid group. The quadrifid group is characterised by the presence of veins m_2 , m_3 , cu_1 and cu_2 in the hindwing. In the trifid group, veins m_2 and m_3 of the hindwing are anastomosed (Roesler 1973). However, quadrifid and trifid species exist in all tribes, except Cabniini. This paper deals with phycitine species from Central Asia belonging to quadrifid and trifid Acrobasina. For the taxonomic study the genitalia were dissected according to Robinson (1976) and slides prepared using Euparal. Drawings of the genitalia were made with an Olympus microscope CHS with a drawing tube. The terminology of the wing venation follows Roesler (1973), while the remaining terminology follows Horak (1997).

Myeloiodes gen. n.

Type species: *Myeloiodes minimella* sp. n. (by monotypy)

Description. Head. Vertex covered with snow white, appressed scales extending beyond vertex. Ocelli present immediately behind scape of antennae. Chaetosemata present well behind scape near margin of eye. Patagia and tegulae white. Labial palps



Figs. 1–4. Moths. 1. *Myeloiodes minimella*, ♂. 2. *Myeloiodes minimella*, ♀. 3. *Ocrisiodes turkmeniensis*, ♂. 4. *Prorophora kazachstaniella*, ♂.

white, porrect, $2\frac{1}{2}$ x eye diameter; 3rd segment drooping, $\frac{1}{4}$ x length of 2nd segment. Maxillary palps short: in male $\frac{1}{2}$ x length of 3rd segment of labial palps; in female a quarter of this length; in both sexes consisting of few, flat brown scales. Proboscis normally developed. Antennae $\pm \frac{5}{6}$ forewing length; scape $3\frac{1}{2}$ x longer than wide and 2x wider than flagellum; base of flagellum with shallow inconspicuous sinus in male, pubescent in both sexes. Abdomen white.

Wings (Fig. 9). Male and female frenulum with only one bristle, as typical for Phycitinae. Wing venation quadrifid. Forewing sc, r_1 , and r_2 normal; $r_3 + r_4$ on a common stalk, stalk about as long as r_4 ; m_1 and m_2 from outer edge of cell, $m_2 + m_3$ on minute common stalk from outer edge of cell; cu_1 and cu_2 from lower edge of cell; ax normal. Hindwing sc + rr from upper angle of cell on a common stalk, the latter about $\frac{5}{9}$ x length of rr; m_1 from cell and free though anastomose over short distance with common stalk of sc + rr; $m_2 + m_3$ short, \pm equal in length and on long common stalk from lowest angle of cell, stalk 8x length of m_2 or m_3 ; cu_1 from lowest angle of cell and free though anastomose over short distance with common stalk of $m_2 + m_3$, an, ax_1 , and ax_2 normal.

Diagnosis. Externally, *Myeloiodes minimella* looks like a small species of *Myelois* Hübner, 1825, subgenus *Gnathogutta* Roesler, 1988. However, *Myeloiodes* is remarkably different from *Myelois* by characters of the labial palps, male and female antennae, as well as male and female genitalia. The differences between *Myelois* Hübner, 1825 and *Myeloiodes* gen. n. are summarised as follows:

***Myelois* Hübner, 1825**

- Labial palps upcurved
- flagellum ciliate in both sexes
- valva relatively broad
- vesica with plate or with bundles of minute spinules
- culcita absent
- corpus bursa with signum

***Myeloiodes* gen. n.**

- Labial palps porrect
- flagellum pubescent in both sexes
- valva slender, elongate
- vesica with 2 cornuti
- culcita present with 2 long scale tufts bilateral and a central membrane
- bursa without signum, but with 2 rows of spines

Myeloiodes minimella* sp. n.*(Figs. 1, 2, 5, 8, 9)**

Material. Holotype ♂, **Turkmenistan**, Nat[ional] Res[ervat] Amu Darja, env. Seidi, 28.v.1998, leg. Z. Kljutschko & O. Targonja, slide 4228 Ass. (ITZA). – Paratypes: 2♀, same data as holotype (slide 4243 Ass.), ITZA; slide 4231 Ass. (genitalia), 5100 A (forewing) and 5100 B (hindwing), coll. Asselbergs.

Description. Alar expanse $15\frac{1}{2}$ – $16\frac{1}{2}$ mm; forewing length (fringe included) $6\frac{1}{2}$ – $7\frac{1}{2}$ mm; forewings white sparsely sprinkled with black scales. Antemedian line indicated by 2 black dots, first at $\frac{1}{4}$ from wing base at upper margin of cell and second below first, more distally at $\frac{1}{3}$ from wing base and well above inner margin; postmedian line composed of 7 black dots running more or less parallel to termen, originating from costa at $\frac{4}{5}$ from wing base and reaching inner margin at $\frac{3}{4}$ from wing base so that both lines converge towards inner margin; with black dot at distal end of cell and row of 7 black dots at termen; fringe white. Hindwings white and semitransparent with darker suffusion at the apex and termen; fringe white.

Male genitalia (Fig. 5). Uncus triangular and apically rounded. Gnathos with short median process. Valva narrowest at base, gradually widening slightly and with costa moderately sclerotised; cucullus rounded. Juxta broadly V-formed with central membrane and sparsely bristled knob-like to digitate lateral processes. Vinculum a little less than 2x length of uncus, simple, with base rounded. Transtilla components present, slender and slightly longer than digitate processes of juxta. Tegumen normal with lateral parts medially intruding. Aedeagus stout, broad and slightly longer than valva; vesica with 2 tapering cornuti of unequal length, longest slightly less than $\frac{2}{5}$ x length of aedeagus, shortest about $\frac{2}{5}$ x length of former, also with numerous granulations. Abdominal segment 8 with V-shaped sclerotised base and central membranous tapering plate; 2 long scale bundles from both sides of base extend just beyond apex of plate. **Female genitalia** (Fig. 8). Lobi anales subtriangular. Ostium membranous. Apophyses posteriores reaching slightly beyond edge of 8th segment, as long as apophyses anteriores. Ductus bursae moderately wide, $\frac{2}{7}$ x length of bursa. Corpus bursae elongate-ovate, posteriorly bilobed slightly with ductus bursae asymmetrically inserted; with 2 rows of spines unequal in length on each side; ductus seminalis originating proximally from longest row.

Life history. Unknown.

Distribution. Known from Turkmenistan, Amu Darja National Reserve, surroundings of Seidi.

***Ocrisiodes* Amsel, 1950**

Type species: *Ocrisiodes chirazalis* Amsel, 1950

Diagnosis. *Ocrisiodes* belongs to the quadrifid Acrobasina. Within the genus, the maxillary palps can be absent. Characteristic are the often disrupted antemedian line in the forewing; veins m_2 and m_3 in the forewing both originate from the cell, strongly approximate basally; the hindwing have sc and rr with a common stalk over a long distance, the male genitalia have the lateral components of the gnathos characteristically curved; the female genitalia have no signum on the corpus bursae.

Ocrisiodes turkmeniensis* sp. n.*(Figs. 3, 6, 10)**

Material. Holotype ♂, **Turkmenistan**, W. Kopet Dagh, Mt Sunt 700 m, Kara Kala, v.1998, leg. Z. Klutschko & O. Targonja (slide 4128 Ass.), ITZA. – Paratype ♂, same data as holotype (slide 4229), coll. Asselbergs.

Diagnosis. Wing pattern irregularly brown scaled on a creamy background with 3 blackish lines; male genitalia with a very broad uncus and relatively short, S-shaped valvae.

Description. **Head.** Vertex flatly curved and covered with cream coloured scales. Ocelli present immediately behind scape of antennae. Chaetosemata present well behind ocelli and close to edge of eye. Labial palps porrect, 1.5 times as long as diameter of compound eye, covered with cream coloured scales, suffused by a few light brown scales; 3rd segment about $\frac{1}{3}$ length of 2nd segment and drooping; maxillary palps small, about $\frac{1}{3}$ length of 3rd segment of labial palps. Antennae about $\frac{3}{4}$ forewing length; scape inflated dorsally, a little more than 2x longer than wide; flagellum filiform, sinus on first segments absent but with four minute spine-like chitinous projections on first four segments, cilia about half as long as width of flagellomeres.

Wings (Fig. 10). Forewing length 9 mm. Forewing sc, r_1 and r_2 normal; r_3 stalked with r_4 , stalk from upper edge of cell and $\frac{4}{9}$ length of r_4 ; m_1 from the upper angle of cell; $m_2 + m_3$ on a common stalk from the lower angle of cell, the length of the stalk being a little less than $\frac{1}{3}$ of m_3 ; cu_1 from lower edge of cell, just below origin of common stalk $m_2 + m_3$; cu_2 more basal from lower edge of cell; ax_1 normal. Hindwing quadrifid, with one frenulum bristle; cubital pecten present; sc and rr on common stalk, the latter about half length of rr; m_1 from upper angle of cell; $m_2 + m_3$ on a common stalk from the lower angle of cell, stalk as long as free branch of m_2 ; cu_1 from lower angle of cell; cu_2 more basal from lower angle of cell; an , ax_1 , and ax_2 normal. Forewing cream coloured, irregularly suffused with brown scales; costa dark brown, contrasting with remaining part of wing; pattern with three dark brown longitudinal lines, first immediately below costa, second in middle of wing, and the third above inner margin; antemedian line inconspicuous except for few brown scales below costa at $\frac{3}{8}$ from base; postmedian line at $\frac{7}{8}$ from base, dark edged inwardly, mainly toward costa, dorsal quarter running obliquely in direction of base before reaching inner margin at $\frac{3}{4}$ from base; with two superposed discoidal black dots slightly extended longitudinally; fringe white with two dark dividing lines. Hindwing greyish white and

slightly transparent, slightly darker at apex and termen; fringe white divided by brownish line near margin.

Male genitalia (Fig. 6). Uncus very wide with straight lateral margins gradually widening distally; gnathos curved downwards which is characteristic of *Ocrisiodes*. Gnathos like equilateral triangle. Tegumen slender. Processes of juxta slender, parallel-sided, and distally with some hairs. Valvae S-shaped, widest at base, sharply tapering distally, and with ventral half heavily sclerotised; sacculus thickly melanised, with some hairs. Aedeagus straight, about $\frac{1}{5}$ longer than valva, widest part as wide as valva at greatest width; vesica granulated proximally, with two big cornuti about $\frac{2}{5}$ length of aedeagus. 8th segment with two scale tufts of about $\frac{5}{7}$ length of aedeagus.

Female. Unknown.

Life history. Unknown.

Distribution. Known from the western part of the Kopet Dagh at an altitude of 700 m.

Prorophora Ragonot, 1887

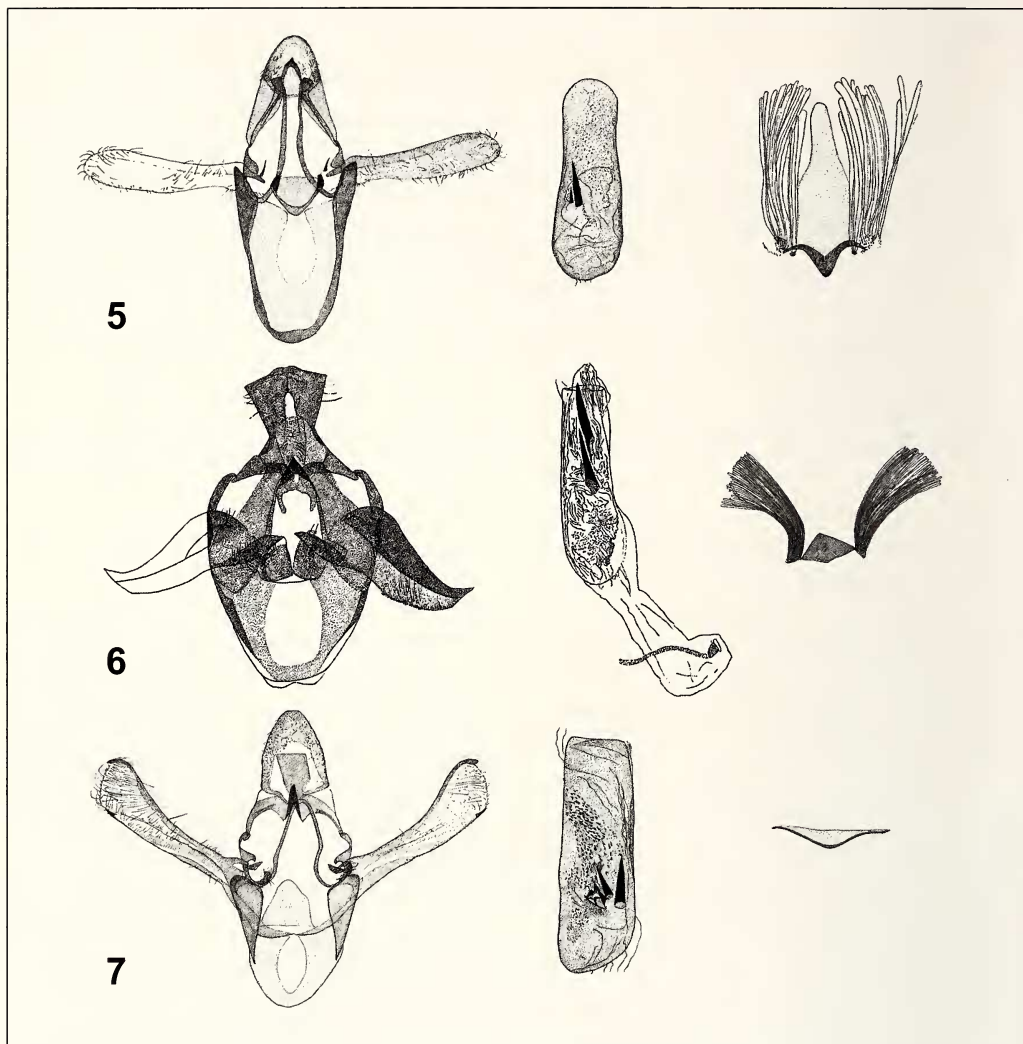
Type species: *Prorophora curvibasella* Ragonot, 1887

Diagnosis. *Prorophora* Ragonot, 1887 is divided into three subgenera, *Prorophora* Ragonot, 1887, *Reisserempista* Roesler, 1970, and *Epischidia* Hampson, 1901. Subgenus *Prorophora* differs from *Reisserempista* by the absence of maxillary palps and, as a rule, by the absence of tiny chitinous projections on the first 3(2)–9(6) male flagellomeres; in *Epischidia* the maxillary palps are present and the chitinous projections on the first flagellomeres are absent; exceptions are *Prorophora* (*Prorophora*) *kazachstaniella* sp. n. which has 5 tiny chitinous projections on the flagellomeres 2–6, and *Prorophora* (*Epischidia*) *albunculella* (Staudinger, 1879) which sometimes has such projections on flagellomeres 3–9.

Description. **Head.** Vertex surrounded by sclerified wall with spine-like or laterally compressed and crest-like projection almost as long or as long as diameter of eye; usually covered with long projecting scales extending beyond antennae. Maxillary palps small or absent. Labial palps porrect, sometimes a little upcurved, 3rd segment straight or drooping. Proboscis developed. Antennae filiform and ciliate or pubescent; flagellomeres 3–9 in males of some species with 3–9 small spine-like chitinous projections dorsally.

Wings. Forewing sc, r_1 and r_2 free, $r_3 + r_4$ on a common stalk, the latter about as long as free branch of r_4 ; m_1 from upper angle of cell; m_2 and m_3 on very short common stalk always shorter than quarter of length of free branches of m_2 and m_3 ; cu_1 from lower angle of cell and cu_2 more basally from lower edge of cell; ax_1 normal; ax_2 as a small groove near base. Hindwing trifold; sc and rr on common stalk, stalk about $\frac{1}{3}$ of combined length of sc+rr; m_1 a little basal from upper angle of cell; m_2 coinciding with m_3 ; m_3 and cu_1 on common stalk from lower angle of cell, stalk $\frac{1}{2}$ length of free branches of m_3 and cu_1 ; cu_2 a little more basal at lower edge of cell; an, ax_1 and ax_2 normal.

Male genitalia. Uncus ovate, terminally rounded. Gnathos sharply tongue shaped apically, lateral branches stout, widest basally, ventral parts of lateral components



Figs. 5–7. Male genitalia (left), with aedeagi (center), and culcitae (right). 5. *Myeloides minimella*. 6. *Ocrisiodes turkmeniensis*. 7. *Prorophora kazachstaniella*.

more sclerified in some specimens. Tegumen with slender but sometimes wide medial parts; in some cases with semicircular sclerotised structure present between tegumen and insertion of costa of valva. Transtilla, if present, small and paired. Juxta variable in shape and with or without lateral processes. Valva mostly narrow and elongate; in some species with costa extending beyond cucullus; sacculus variable in shape, usually tapering distally. Vinculum extended or compact with flat or rounded base. A culcita can be present.

Female genitalia. Ovipositor compact, not or very slightly extendable. Antrum mostly well defined. Bursa rounded or ovate with simple or paired signa. Ductus seminalis arising from lobe near transition between ductus seminalis and corpus bursae.

Remarks. The description of the wing venation is based on *Prorophora* (*Prorophora*) *curvibasella* Ragonot, 1887. It is assumed that the veins do not vary significantly within the subgenus.

***Prorophora* (*Prorophora*) *kazachstaniella* sp. n.**

(Figs. 4, 7)

Material. Holotype ♂, Kazakhstan W, 10 km SW Kulsari, 06.v.2000, leg. V. Karalius & J. Miatleuski (slide 5325 Ass.), ITZA.

Description. **Head.** Vertex with a crest-like, laterally compressed projection about $\frac{3}{4}$ as long as diameter of eye with 2 superposed small teeth of \pm equal length distally; scales long, extending anteriorly, cream coloured medially, partly brown laterally; Ocelli present at base of scape. Chaetosemata present. Maxillary palps absent. Labial palps two times as long as diameter of eye, porrect or slightly ascending with adjacent cream coloured, partly brown scales; 3rd segment $\frac{1}{4}$ length of 2nd segment, drooping. Antennae $\frac{3}{4}$ forewing length, scape 2.25x longer than wide; flagellum filiform, dorsally annulate, without sinus but with five small spine-like projections on flagellomeres 2–6; cilia $1\frac{1}{2}$ time longer than width of flagellomeres.

Thorax and abdomen. Thorax, including tegulae, with cream coloured and brown scales intermixed, patagia with dorsally projecting cream coloured scales;. Abdomen cream coloured.

Wings. Forewing 9 mm long; elongate subtriangular; costa straight till $\frac{4}{5}$, then curved towards apex; termen oblique; ground colour creamy white; antemedian line white, starting at $\frac{1}{3}$ of costa in a blunt angle, running weavy to middle of inner margin, near costa dark edged outwardly; two black stigmata adjacent to antemedian line, anterior stigma dot-like, posterior stigma a long streak parallel to inner margin, ending shortly before postmedian line; postmedian line white, dark edged inwardly, originating on costa at about $\frac{6}{7}$ before running toward base, with acute angle about halfway, then directed toward base before ending on inner margin at $\frac{4}{5}$; with two dark superposed discoidal spots: dorsalmost more obvious and slightly closer to base; termen with row of dark brown spots; fringe white, with two brown lines. Hindwing semitransparent; apex and termen a little darker; fringe white.

Male genitalia (Fig. 7). Uncus ovate, rounded terminally. Gnathos sharply tongue-shaped apically, lateral branches large, widest basally, with ventral section thickly melanised. Tegumen slender with semicircular thickly sclerified plate between junction of tegumen and costa. Transtilla paired, components small and subtriangular. Juxta without lateral processes. Valva narrow, elongate, with longitudinal weak ridge between costa and ventral edge adorned with a few setae; sacculus tapering distally; ventral edge terminally with small sharp spine below cucullus. Vinculum compact with base rounded. ventral edge of 8th segment flatly V-shaped. Culcita absent.

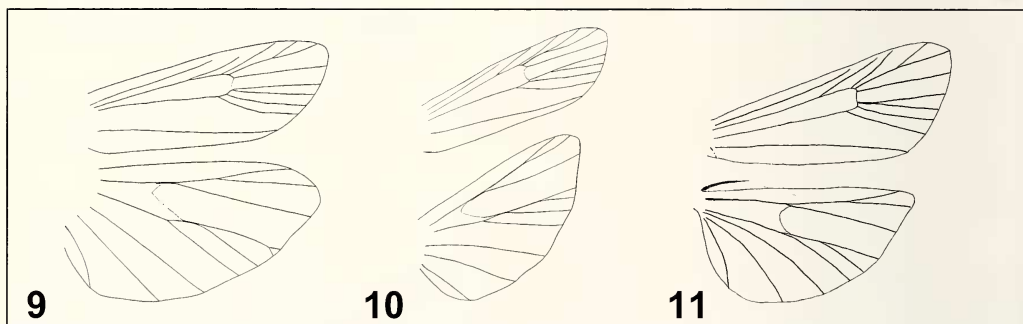
Female. Unknown.

Life history. Unknown.

Distribution. Known from western Kazakhstan.



Fig. 8. Female genitalia of *Myloiodes minimella*.



Figs. 9–11. Wing venation. 9. *Myloiodes minimella*. 10. *Ocrisiodes turkmeniensis*. 11. *Prorophora curvibasella*.

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References

- Hampson, G. F. 1901. Monographie des Phycitinae et des Galleriinae. Pp. i–xiv, 1–602, pls. 24–57. – *In*: Romanoff, N. M., Mémoires sur les Lépidoptères 8. – St. Pétersbourg.
- Horak, M. 1997. A reassessment and review of the Australian genus *Ctenomeristis* Meyrick (Lepidoptera: Pyraloidea, Phycitinae). – *Entomologica Scandinavica* 28 (4): 445–470.
- Robinson, G. S. 1976. The preparation of slides of Lepidoptera genitalia with special reference to the Microlepidoptera. – *Entomologist's Gazette* 27: 127–132.
- Roesler, R. U. 1973. Phycitinae. Trifine Acrobasiina. – *In*: Amsel, H. G., F. Gregor & H. Reisser, Microlepidoptera Palaearctica 4 (1): i–xvi, 1–752; ibidem 4 (2): 1–137, pls. 1–170. – G. Fromme & Co., Wien.
- Roesler, R. U. 1993. Phycitinae. Quadrifine Acrobasiina. – *In*: Amsel, H. G., F. Gregor, H. Reisser & R.-U. Roesler, Microlepidoptera Palaearctica 8 (1): i–xxii, 1–305; ibidem 8 (2): pls. 1–82. – G. Braun, Karlsruhe.